

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants : Shaily Verma and Charles Chuanming Wang

Serial No. : 10/517,131

Filed : 6 December 2004

For : INTERWORKING FUNCTION (IWF) AS LOGICAL RADIO
NETWORK CONTROLLER (RNC) FOR HYBRID
COUPLING IN AN INTERWORKING BETWEEN WLAN
AND A MOBILE COMMUNICATIONS NETWORK

Art Unit : 2617

Examiner : Joseph Arevalo

APPEAL BRIEF

Commissioner for Patents
MAIL STOP Appeal Brief - Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In response to the Final Rejection dated 21 August 2009, the Appellants submit this Appeal Brief. Please charge the fee for this Brief to Deposit Account No. 07-0832.

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Real Party in Interest

The real party in interest is THOMSON LICENSING S.A., the assignee of the entire right title and interest in and to the subject application, by virtue of an assignment recorded with the US Patent and Trademark Office on 6 December 2004 at Reel/Frame 016695/0020.

Related Appeals and Interferences

The Appellants assert that no other appeals or interferences are known to the Appellants, the Appellants' legal representatives or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-25 have been rejected. The rejection of Claims 1-25 is appealed.

Status of Amendments

All amendments have been entered.

Summary of Claimed Subject Matter

The following sets forth independent Claims 1 and 14, with parenthesized references to the instant specification, drawing and Claims as filed:

1. A method for supporting an interworking between a wireless local area network and a mobile communications network (page 2, lines 9-10), the mobile communications network including a radio access network comprising a transceiver coupled to a radio network controller (original Claim 1, lines 2-4), the radio network controller being coupled to a core network (original Claim 1, lines 4-5), the method comprising the steps of:

providing an interworking function disposed on the wireless local area network side of the mobile communications network (original Claim 1, lines 6-7, Figure 1); and

connecting the wireless local area network to the mobile communications network by employing the interworking function as an auxiliary radio network controller associated with the mobile communications network (original Claim 1, lines 8-10).

14. An apparatus for supporting an interworking between a wireless local area network and a mobile communications network, the interworking being facilitated by an interworking function (105) disposed on a wireless local area network side of the mobile communications network (original Claim 14, lines 1-4, Figure 1), the apparatus comprising:

means for connecting the wireless local area network to the mobile communications network using the interworking function as a drift radio network controller for the mobile communications network (original Claim 14, lines 5-7).

Grounds of Rejection to be Reviewed on Appeal

Whether independent Claims 1 and 14 have been properly rejected

Whether subclaims 2- 13 and 15- 25 have been properly rejected

Remarks/Arguments

The Examiner has noted that the application currently names joint inventors. The Examiner correctly presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made.

Claims 1 to 8, 13 to 20 and 25 have been rejected under 35 USC 103(a) as unpatentable over US 6,243,581 to Jawanda in view of US 6,757,293 to Chuah et al. The Appellants submit that this rejection is improper.

Jawanda provides seamless roaming between networks by providing simultaneous wireless connections between the networks. A network arbitrator selects the network with greater data bandwidth.

Nowhere does Jawanda show or suggest:

“the radio network controller coupled to a core network”,

as specifically set forth in Claim 1. Furthermore, nowhere does Jawanda show or suggest:

“connecting the wireless local area network to the mobile communications network by employing the interworking function as an auxiliary radio network controller associated with the mobile communications network”,

as specifically recited in Claim 1. Rather, in Jawanda, IWF 36 couples subsystem 32 to gateway 38. See column 3, lines 18 to 21.

Furthermore, nowhere does Jawanda show or suggest:

“providing an interworking function disposed on the wireless local area network side of the mobile communications network”,

as specifically set forth in Claim 1. The Examiner agrees that Jawanda does not show this feature. The Examiner looks to Chuah et al for this feature.

US 6,757,293 to Chuah et al relates to an UMTS system which supports different bit rates. A soft handoff between base stations is accomplished by simultaneously communicating with two base stations. A frame selecting unit FSU 12 decides which base station provides better frame quality. Interworking functions IWF1, IWF2 and IWF_n couple core networks CN to subnetwork 18 and RNC 14 and FSU 12.

Nowhere does Chuah et al show or suggest:

“interworking between a wireless local area network and a mobile communications network”,

as specifically recited in Claims 1 and 14. Furthermore, nowhere does Chuah et al show or suggest:

“providing an interworking function disposed on the wireless local area network side of the mobile communications network, and

connecting the wireless local area network to the mobile communications network by employing the interworking function as an auxiliary radio network controller associated with the mobile communications network”,

as specifically recited in Claim 1. In fact, nowhere does Chuah et al show or suggest any wireless local area network (WLAN). Chuah et al uses interworking functions 22 to couple core networks 24 to other components within the mobile communications network of figure 1. There is no reason why a person skilled in the art would look to Chuah et al to improve interworking between a wireless local area network (WLAN) and a mobile communications network, since Chuah et al shows only a mobile communications network. It is therefore clear that Jawanda and Chuah et al, taken either singly or in combination, do not affect the patentability of Claim 1.

Furthermore, nowhere does Jawanda show or suggest:

“connecting the wireless local area network to the mobile communications network using the interworking function as a drift radio network controller for the mobile communications network”,

as specifically recited in Claim 14. Rather, in Jawanda, IWF 36 couples subsystem 32 to gateway 38. See column 3, lines 18 to 21. Since Chuah et al does not show or suggest any wireless local area network, it is therefore clear that Jawanda and Chuah et al, taken either separately or in combination, do not affect the patentability of Claim 14.

Claims 2-8 are dependent from Claim 1 and add further advantageous features. The Appellants submit that these subclaims are patentable as their parent Claim 1.

Similarly, Claims 15-20 are dependent from Claim 14 and add further advantageous features. The Appellants submit that these subclaims are patentable as their parent Claim 14.

No other art has been applied against independent Claims 1 and 14. However, for completeness, the other art cited by the Examiner will be discussed:

US 2001/0027490 to Fodor et al relates to an IP network in which communication between users may use QOS definitions for priority. Nowhere does Fodor et al show or suggest:

“interworking between a wireless local area network and a mobile communications network”,

as specifically recited in Claims 1 and 14. Furthermore, nowhere does Fodor et al show or suggest:

“providing an interworking function disposed on the wireless local area network side of the mobile communications network, and

connecting the wireless local area network to the mobile communications network by employing the interworking function as an auxiliary radio network controller associated with the mobile communications network”,

as specifically recited in Claim 1. Furthermore, nowhere does Fodor et al show or suggest:

“means for connecting the wireless local area network to the mobile communications network using the interworking function as a drift radio network controller for the mobile communications network”,

as specifically recited in Claim 14. It is therefore clear that Fodor et al does not affect the patentability of Claims 1 and 14.

It is furthermore clear that even if the disclosures of Jawanda, Chuah et al, and Fodor et al were to be combined, the patentability of independent Claims 1 and 14 would not be affected.

Conclusion

The Applicants therefore submit that the Examiner's rejection is improper and should be reversed. A notice to that effect is respectfully solicited.

Respectfully submitted,
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Claims Appendix

1. A method for supporting an interworking between a wireless local area network and a mobile communications network, the mobile communications network including a radio access network comprising a transceiver coupled to a radio network controller, the radio network controller being coupled to a core network, the method comprising the steps of:

providing an interworking function disposed on the wireless local area network side of the mobile communications network; and

connecting the wireless local area network to the mobile communications network by employing the interworking function as an auxiliary radio network controller associated with the mobile communications network.

2. The method of claim 1, wherein the mobile communications network comprises a universal mobile telecommunications system and the interworking function is employed as a drift radio network controller.

3. The method of claim 2, wherein said connecting step connects the wireless local area network to the mobile communications network through a user plane interface.

4. The method of claim 2, wherein the mobile communications network has a serving radio network controller, and the user plane interface is disposed between the interworking function and the serving radio network controller.

5. The method of claim 4, wherein said connecting step comprises the step of establishing an Iur interface between the interworking function and the serving radio network controller.

6. The method of claim 5, further comprising the step of diverting data from the serving radio network controller to the wireless local area network through the Iur interface.

7. The method of claim 2, wherein said connecting step splits a control plane between the mobile communications network and the wireless local area network and also splits a user plane between the mobile communications network and the wireless local area network.

8. The method of claim 7, wherein said connecting step comprises the step of transmitting a radio link setup request from the serving radio network controller to the interworking function.

9. The method of claim 8, wherein said transmitting step is performed using a radio network subsystem application part message that includes at least one of quality of service parameters and a type of dedicated/common transport channel.

10. The method of claim 4, further comprising the step of performing call admission control by the interworking function.

11. The method of claim 10, wherein said performing step is implemented based upon at least one of a type of service assigned by the interworking function, a type of dedicated/common transport channel requested by the serving radio network controller, and wireless local area network resources available in an access point to which a user equipment will attach.

12. The method of claim 4, wherein the mobile communications network further includes a serving general packet radio service support node, a gateway general packet radio service support node, and a node B, and said method further comprises the steps of:

forming a data path from a user equipment to the interworking function to the serving radio network controller to the serving general packet radio service support node to the gateway general packet radio service support node; and

forming a control path from the user equipment to the node B to the serving radio network controller to the serving general packet radio service support node to the

gateway general packet radio service support node.

13. The method of claim 2, further comprising the step of releasing data bearers of the mobile communications network when activity has ceased on data channels of the mobile communications network.

14. An apparatus for supporting an interworking between a wireless local area network and a mobile communications network, the interworking being facilitated by an interworking function disposed on a wireless local area network side of the mobile communications network, the apparatus comprising:

means for connecting the wireless local area network to the mobile communications network using the interworking function as a drift radio network controller for the mobile communications network.

15. The apparatus of claim 14, wherein said means for connecting connects the wireless local area network to the mobile communications network through a user plane interface.

16. The apparatus of claim 14, wherein the mobile communications network has a serving radio network controller, and the user plane interface is disposed between the interworking function and the serving radio network controller.

17. The apparatus of claim 16, wherein said means for connecting comprises means for establishing an Iur interface between the interworking function and the serving radio network controller.

18. The apparatus of claim 17, further comprising means for diverting data from the serving radio network controller to the wireless local area network through the Iur interface.

19. The apparatus of claim 14, wherein said means for connecting splits a

control plane between the mobile communications network and the wireless local area network and also splits a user plane between the mobile communications network and the wireless local area network.

20. The apparatus of claim 19, wherein said means for connecting comprises means for transmitting a radio link setup request from the serving radio network controller to the interworking function.

21. The apparatus of claim 20, wherein said means for transmitting uses a radio network subsystem application part message that includes at least one of quality of service parameters and a type of dedicated/common transport channel.

22. The apparatus of claim 16, further comprising means for performing call admission control by the interworking function.

23. The apparatus of claim 22, wherein said means for performing call admission control employs at least one of a type of service assigned by the interworking function, a type of dedicated/common transport channel requested by the serving radio network controller, and wireless local area network resources available in an access point to which a user equipment will attach.

24. The apparatus of claim 16, wherein the mobile communications network further includes a serving general packet radio service support node, a gateway general packet radio service support node, and a node B, and said apparatus further comprises:

means for forming a data path from a user equipment to the interworking function to the serving radio network controller to the serving general packet radio service support node to the gateway general packet radio service support node; and

means for forming a control path from the user equipment to the node B to the serving radio network controller to the serving general packet radio service support node to the gateway general packet radio service support node.

25. The apparatus of claim 14, further comprising means for releasing data bearers of the mobile communications network when activity has ceased on data channels of the mobile communications network.

Evidence Appendix

None

Related Proceedings Appendix

None